WRITTEN TESTIMONY OF

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I. INTRODUCTION

Mr. Chairman, and Members of the Subcommittee, good morning, and thank you for inviting me to discuss efforts to restore the Great Lakes. I am Tim Keeney, the Deputy Assistant Secretary of Commerce for Oceans and Atmosphere. The Great Lakes are one of the earth's greatest treasures and the Nation's single most important aquatic resource from an economic, geographic, international, ecological, and societal perspective. Today, I will focus my remarks on two areas: the National Oceanic and Atmospheric Administration's (NOAA) response to the recent Government Accounting Office (GAO) report, and NOAA's programs related to restoration efforts in the Great Lakes.

Many complex challenges lie ahead for the Great Lakes. The Great Lakes continually face extremes in natural phenomena such as storms, erosion, high waves, high and low water levels, and climate variability, all of which influence efforts to restore habitat.

Population growth in the region will continue to increase stresses on the Great Lakes, adding to the complexity of management issues. The one thing that we can predict with near certainty is that the Great Lakes ecosystem will continue to change and pose a challenge for effective use and management.

In the early 1970s when Lake Erie was declared dead, the solution, based on best available science, was relatively clear: nutrient loading must be reduced. Our ecological understanding and technological know-how have significantly improved since the 1970s. It is clear that future successes will depend on a holistic, ecosystem approach.

II. NOAA's RESPONSE TO THE GAO REPORT

NOAA shares the concerns raised in the recent GAO report *The Great Lakes: An Overall Strategy and Indicators for Measuring Progress are Needed to Better Achieve Restoration Goals*. NOAA agrees that restoration of the Great Lakes ecosystem is a complex and challenging task. Although many federal, state, and local programs are already working together on this task, better coordination would help all partners to more effectively work together to restore the Great Lakes ecosystem. The complexity of the issue and the large numbers of specific projects that are being developed to address environmental problems in the Great Lakes have complicated tracking of progress toward achieving restoration goals. Improving the consistency of performance metrics among the agencies involved, and better coordination of monitoring programs would provide information necessary for reliably evaluating progress toward regional restoration goals.

III. NOAA's ONGOING EFFORTS IN THE GREAT LAKES

NOAA has environmental stewardship, assessment, and prediction responsibilities in the Great Lakes. NOAA conducts physical, chemical, and biotic research and environmental monitoring and modeling, providing scientific expertise and services to manage and protect Great Lakes ecosystems. Research helps to improve the understanding and prediction of coastal and estuarine processes, including the interdependencies with the atmosphere and sediments. Specifically, NOAA:

- Predicts impacts of pollution and coastal development on sensitive habitats and resources, including maintaining contaminant-monitoring sites in Green Bay, and Lakes Michigan, Huron, St. Clair, Erie and Ontario to determine contaminant trends;
- Works with states to analyze changes in coastal land cover and plan habitat restoration and conservation;
- Collects, analyzes and distributes historical and real-time observations and predictions of water levels, coastal currents and other meteorological and oceanographic data;
- Provides scientifically sound information on ecosystem processes to improve management decisions and mitigate human impacts;
- Develops and implements techniques and products to improve severe storm forecasting, and provides the weather and flood warnings, forecasts, and meteorological and hydrologic data used by research, environmental management, transportation, and community interests in the Great Lakes;

- Provides surveying, nautical charts, and other navigation services for safe shipping and boating;
- Acts on behalf of the Secretary of Commerce as a natural resource trustee for the public to protect and restore aquatic species and their habitat; and associated services such as safe navigation and transportation, recreation, commercial fishing, shoreline stabilization, and flood control;
- Partners with universities through the National Sea Grant College Program and the Great Lakes Environmental Research Laboratory to encourage stewardship of Great Lakes coastal natural resources by providing funding to and conducting joint projects with area universities for research, education, outreach and technology transfer; and,
- Partners with state Coastal Zone Management programs to work with local communities and state agencies to preserve, protect, develop, restore, and enhance coastal zone resources, providing research, education, and protection of coastal and estuarine areas.

My testimony today provides examples of NOAA activities that relate to habitat restoration - an agency priority. NOAA's restoration role includes advising on cleanup of contaminated sites, working with states and others to fund habitat restoration projects, and conducting research and monitoring activities.

The issues involved in large contaminated sediment sites are multifaceted and often controversial, resulting in assessments and cleanups that can take ten or more years to

complete. NOAA works with our partner agencies to promote remedies that will protect the aquatic environment, build restoration into clean up actions, and reduce overall injury to natural resources to speed their recovery. By working cooperatively at sites with cleanup and trustee agencies, local groups, and potentially responsible parties, NOAA decreases contaminant loads, reduces risks to protect sensitive species, and improves and restores habitat function. In addition to cleanup, there is often a need to restore natural resources that have been injured by contaminant releases. This can be accomplished through NOAA's trustee authority to cooperatively address liability, to assess natural resource damages, and to restore natural resources. NOAA is currently working on cleaning up and restoring 18 hazardous waste sites in the Great Lakes region.

NOAA partners with state governments through the Coastal Zone Management program, a unique federal-state partnership that provides a proven basis for protecting, restoring, and responsibly developing the Nation's important and diverse coastal communities and resources. A major premise of the Coastal Zone Management Act is that the management of uses and resources of the coastal zone is best achieved at the state and local level. Great Lakes state Coastal Zone Management programs support and coordinate with local governments, tribal agencies, and community organizations on developing watershed management plans and protecting and managing critical coastal areas, such as coastal wetlands. These existing relationships could be used to involve local stakeholders in a Great Lakes regional restoration plan. All of the states in the Great Lakes, with the exception of Illinois, have federally-approved Coastal Zone Management programs. An example of current restoration efforts is the Great Lakes Coastal Restoration Grant

program, which was funded through a $30 million appropriation in fiscal year 2001. More than 70 local government units have partnered in this program and are working on a variety of restoration projects, including contaminated sediment cleanup, invasive species removal, dune and marsh restorations, acquisition of critical habitat, and storm water management projects.

NOAA's Great Lakes Environmental Research Laboratory conducts a variety of research applicable to restoration and coordinates significant intergovernmental issues. NOAA's partnership with Sea Grant Colleges, government, and the private sector offers an integrated program of research, education, and technical assistance that promotes the restoration of degraded coastal habitat. Overall NOAA activities include wetlands banking, rehabilitation of Brownfields sites, beach stabilization and restoration, establishing protected areas, using dredged material to enhance fish and wildlife habitat, improving water quality, fisheries management, and prevention of invasive species. NOAA Sea Grant scientists develop and implement methods to restore habitat and extension agents empower coastal communities to undertake well-planned coastal development that preserves and promotes restoration of critical coastal habitats. For example, Wisconsin's Brown County, with funding from the U.S. Army Corps of Engineers, is rebuilding the Cat Island chain of barrier islands in Green Bay to restore these important habitats for fish and wildlife. Sea Grant habitat restoration and coastal engineering specialists have provided habitat designs, identified potential water quality impacts, and helped determine acceptable PCB levels in the dredged material used for construction of the islands.

NOAA conducts a variety of research and monitoring applicable to restoration and coordinates activities on significant intergovernmental issues. An example of coordinated research is the NOAA National Center for Aquatic Invasive Species Research, currently being established to develop a coordinated NOAA research plan to address invasive species issues. The Center will foster partnerships among NOAA, other agencies, universities, and private sector entities to address prevention, early detection, rapid response, and management of invasive species, a major restoration issue for Great Lakes ecosystems.

NOAA also provides monitoring and other information useful for evaluating restoration needs and success. For example, NOAA's Mussel Watch Program analyzes contaminant levels in mussel tissue and sediments as a means of tracking the health of Great Lakes ecosystems. NOAA is also developing land cover data for the entire coastal zone of the U.S. Great Lakes. The land cover data are being developed for 2001, along with retrospective land cover for 1996, to identify changes in the landscape. These regional data sets can help coastal managers monitor urban sprawl and changes to natural resources, inventory wetland and wildlife habitat, and develop trend analyses.

The Estuary Restoration Act was passed in 2001 to facilitate coordination among federal and private entities that conduct restoration activities. The Interagency Estuary Habitat Restoration Council (consisting of delegates from each of five agencies: EPA, NOAA, Department of the Army, Fish and Wildlife Service, and Department of Agriculture)

administers the directives of the Estuary Restoration Act (ERA). The nearshore waters and coastal wetlands of the Great Lakes are classified as estuary habitats under the ERA, and are therefore eligible for estuary habitat restoration program funding. As part of its responsibilities under the ERA, NOAA is developing monitoring protocols to better assess the success of restoration projects and a national database of restoration projects. This database will include information on project goals, restoration techniques, and monitoring results, and will be publicly accessible over the internet in the fall of 2003.

NOAA has recently awarded two grants that will further restoration planning for the Great Lakes. Under these grants, the Great Lakes Commission and the Northeast-Midwest Institute, in partnership with the Great Lakes Sea Grant Network, will provide technical and scientific support to the Region's leadership in the development of a comprehensive ecosystem restoration plan. The Institute will review the approaches that other regions have used to launch major ecosystem restoration initiatives in order to provide guidance for Great Lakes planning efforts. The Commission will facilitate a series of state and province focus groups culminating in a Great Lakes Restoration forum that will identify restoration priorities and associated strategic actions. This effort will help unify the many existing strategic plans from partner agencies. NOAA looks forward to working in partnership with EPA, states, and others in this effort.

As part of our responsibilities under the Estuary Restoration Act, NOAA is producing guidance for monitoring restoration projects that should be applied to restoration efforts in

the Great Lakes. These monitoring protocols include a core set of indicators of ecosystem function specific to each habitat type to allow an accurate evaluation of restoration results.

NOAA is currently working with coastal states to develop a national coastal management performance measurement system. The first phase of the project, a national framework, was completed in June of this year. A joint state-federal working group has been established to identify specific indicators that will show the results of coastal management efforts in the states. NOAA will report to Congress on the status of the proposed performance measurement system in December 2003.

Thank you again for inviting me to present this overview of NOAA's current contributions to restoring Great Lakes ecosystems. I would be happy to answer any questions you might have.